

Postdoc Stipend in Biocontrol and the Microbiome for IPM in potato

Soil health: Genomics approaches to understanding the effects of disease control on microbial communities in the agro-ecosystem.

Since potato is the crop that receives the most fungicide in Sweden we are interested in the effects of fungicides, and/or low risk compounds and/or biological control agents on off-target organisms in the soil. Although the fungicides used to treat late blight have an average persistence of only 8 hours in the soil, we hypothesise that repeated weekly treatments with fungicides could affect the abundance or diversity of microbial species in the soil community and thus have a negative effect on soil health. We would also like to develop practical approaches to reducing fungicide usage in potato. Therefore we are also testing the oomycete *Pythium oligandrum* for its potential as a disease control agent in both greenhouse and field trials in combination with low risk compounds and other biocontrol agents.

The aim of this postdoc training project is to study the diversity and composition of the soil microbial community from potato fields treated either with standard synthetic fungicide mixtures or with our biological control agents alone or in combinations with other low risk compounds. We will examine whether these treatments have a positive or negative effect on soil health and specifically what the effects of both plant pathogens and living biocontrol agents and their effectors are on the soil microbiome. We will also study how best to combine biocontrol agents and low risk compounds both in controlled conditions and in field trials for effective control of potato late blight and potato early blight.

The post doc will join a dynamic multidisciplinary team of approximately 16 researchers within the Integrated Plant Protection unit at the Department of Plant Protection Biology, studying biological control, pests, pathogens and integrated pest and disease control within agroecosystems.

Qualifications: We are looking for a highly motivated candidate who is interested in both fundamental and applied aspects of plant pathology. The candidate should have a PhD degree in molecular plant pathology, soil ecology, or a related subject. Demonstrated skills in the field of practical plant pathology and molecular biology are essential. Field experience of potato diseases and soil sampling for metagenomics and bioinformatics analysis of metagenomics data is also advantageous. Fluency in written and spoken English is essential. The ranking of candidates will be made based on proven scientific competence within the subject of the position. Priority will be given to applicants who have been awarded their PhD degree at most three years before the application deadline. The candidate should have the ability to work independently, and have an interest in Integrated Pest Management.

Location: Alnarp, Sweden.

The post doc will receive a two-year stipend to support their living costs..

Extent: 100%

Starting date: By agreement, preferably as soon as possible.

Application: please send your application to laura.grenville.briggs@slu.se no later than 26th March 2018. All documents must be written in English. Your application should contain: 1) a *short* (maximum 2 page) letter of motivation describing your previous and current research and any other activities of relevance to the position; 2) a CV including a list of publications; 3) contact details for at least two people as professional references.

The Swedish University of Agricultural Sciences (SLU) develops the understanding and sustainable use and management of biological natural resources. The university ranks well internationally within its subject areas. SLU is a research-intensive university that also offers unique degree programmes in for example rural development and natural resource management, environmental economics, animal science and landscape architecture.

SLU has just over 3,000 employees, 5,000 students and a turnover of SEK 3 billion. The university has invested heavily in a modern, attractive environment on its campuses in Alnarp, Umeå and Uppsala.

www.slu.se

The Faculty of Landscape Architecture, Horticulture and Crop Production Science (LTV) is responsible for research, teaching, environmental monitoring and assessment as well as outreach and collaboration in the fields of landscape planning and horticulture. The LTV Faculty is also active in the fields of agriculture, food, production, health, quality of life, environment and water.

The majority of the faculty's employees and students are based on Campus Alnarp, between Lund and Malmö. The LTV Faculty houses six departments and a large number of collaborative centres.

Further information:

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